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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,791	08/19/2003	Anthony A. Gallo	3833-030392 (LDEO-108)	7402

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EXAMINER

KEEHAN, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/644,791

Applicant(s)

GALLO ET AL.

Examiner

Christopher M. Keehan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 16-27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Examiner's Comments

A call was placed to applicant on November 23, 2004 to cancel the non-elected claims to put the case in condition for allowance. However, upon further review, the claims have been treated as set forth below. The examiner regrets any inconvenience this might have caused applicant.

Claim Objections

Claims 1-3, 7, 12, and 15 are objected to because of the following informalities: claim 3 should depend from claim 2, claim 7 should depend from claim 1, and claim 15 should depend from claim 12.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, and 4-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura et al. (6,660,811 B2). Regarding claims 1, 2, 4-7, 9, and 11, 12, 14, and 15,

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Ogura et al. disclose an epoxy resin composition comprising an epoxy resin, more specifically an epoxy cresol novolac or biphenyl epoxy resin (col.14, lines 20-22), wherein the epoxy resin is present at 11.6% (Table 1, Examples 1 and 2 with resin A), a melamine cyanurate (col.17, line 49), and a transition metal oxide containing an oxyanion of a group VIA element, more specifically tungsten oxide (col.18, line 17), a phenolic novolac hardener (col.14, line 55-col.15, line 14) present in an amount (8.1% by weight) included in the range as claimed by applicant (Table 1, Examples 1 and 2), and a bulk amount of filler (col.16, line 55-col.17, line 5). Ogura et al. do not appear to specifically disclose these components all together in a working example. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the components as instantly claimed because Ogura et al. disclose that these components can be used together to produce an epoxy resin excellent in flame retardance, resulting in a higher quality product.

Regarding claim 8, Ogura et al. disclose adding melamine cyanurate (col.17, lines 49-59), and an amount of a metal oxide containing an oxyanion (col.18, lines 30-36) at amounts that encompass applicant's instantly claimed ranges, respectively. Regarding claim 10, Ogura et al. disclose 11.6% by weight of epoxy resin (Table 1, Examples 1 and 2). Ogura et al. do not appear to specifically disclose from about 5.5% by weight to about 8.5% by weight as claimed. However, it has been held that a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775,

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227 USPQ 773 (Fed. Cir. 1985). The 11.6% by weight of Ogura et al. appears to be close enough to the claimed about 8.5% to possess the same properties, absent evidence to the contrary.

Regarding claim 13, Ogura et al. disclose adding a catalyst in an amount included in applicant's range (Table 1, Examples 1 and 2).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogura et al. (6,660,811 B2) in view of Gallo et al. (5,476,716). Ogura et al., as applied above, are as set forth and incorporated herein. Ogura et al. do not specifically disclose tungsten trioxide. Gallo et al. disclose an epoxy resin composition substantially free of halogen and antimony comprising epoxy resin with a phenolic novolac hardener, and the inclusion of tungsten trioxide (Table 1 and col.8, lines 1-6). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used tungsten trioxide as taught by Gallo et al. in the composition as taught by Ogura et al. because Gallo et al. teach that adding tungsten trioxide to an epoxy resin composition produces a more flame resistant molded resin, resulting in a higher quality product.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallo et al. (6,432,540 B1) in view of von Gentzkow et al. (5,760,146). Gallo et al. disclose a flame retardant composition substantially free of halogen and antimony comprising an epoxy resin as claimed (col.2, lines 47-59), phenolic novolac hardener

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(col.4, lines 28-31) and a transition metal oxide as claimed, more specifically tungsten trioxide (col.4, lines 33-39), and a filler as claimed (col.4, line 40-col.5, line 4). Gallo et al. do not appear to specifically disclose melamine cyanurate. Von Gentzkow et al. disclose a composition comprising epoxy resin (col.6, lines 30-41) and melamine cyanurate as a flame retardant (col.8, line 12). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added melamine cyanurate as a flame retardant as taught by von Gentzkow et al. to the epoxy resin composition as taught by Gallo et al. because von Gentzkow et al. teach that adding melamine cyanurate to an epoxy resin composition produces increased flame retardance, resulting in a higher quality product.

Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallo et al. (6,432,540 B1) in view of Heine et al. (6,500,546 B1). Gallo et al. disclose a flame retardant composition substantially free of halogen and antimony comprising an epoxy resin as claimed (col.2, lines 47-59), phenolic novolac hardener (col.4, lines 28-31) and a transition metal oxide as claimed, more specifically tungsten trioxide (col.4, lines 33-39), and a filler as claimed (col.4, line 40-col.5, line 4). Gallo et al. do not appear to specifically disclose melamine cyanurate. Heine et al. disclose a composition comprising epoxy resin (col.7, lines 23-32) and melamine cyanurate as a flame retardant (col.7, line 67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added melamine cyanurate as a flame retardant as taught by Heine et al. to the epoxy resin composition as taught by

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Gallo et al. because Heine et al. teach that adding melamine cyanurate to an epoxy resin composition produces increased flame retardance, resulting in a higher quality product.

Response to Amendment

The declaration under 37 CFR 1.132 filed with the response to the last office action is insufficient to overcome the rejection of claims 1-15 as set forth in the last Office action because there is no showing of unexpected results. Example A has two significant differences when compared to comparative Examples B and C, so that a proper comparison cannot be made. The first difference is in the amount of silica filler, 69.59 parts in Example A compared to 73.59 parts in comparative Examples B and C. The second and most critical difference is that Example A contains a total of 10 parts flame retardants (six parts tungsten trioxide and four parts melamine cyanurate), while the comparative examples contain only six parts tungsten trioxide for Example B and four parts tungsten trioxide for Example C, in effect totaling six parts of flame retardant for Example B, and four parts of flame retardant for Example C. Clearly one of ordinary skill in the art would expect that applicant's example has better flame retardant properties since it contains a higher amount of flame retardant components. A proper comparison would compare the same amount of silica and an example with 10 parts melamine cyanurate and another example with 10 parts tungsten trioxide.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Keehan whose telephone number is (571) 272-1087. The examiner can normally be reached on Monday-Friday, from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher Keehan

January 11, 2005

CME
DAVID J. BUTTNER
PRIMARY EXAMINER

David Buttner